

Technical data sheet

Throughbeam photoelectric sensor transmitter

Part no.: 50127045

LS46C.8-M12



Figure can vary

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Operation and display
- Suitable receivers
- Part number code
- Notes
- Further information
- Accessories



Technical data

Basic data

| | |
|---------------------|-----------------------|
| Series | 46C |
| Operating principle | Throughbeam principle |
| Device type | Transmitter |

Special version

| | |
|-----------------|------------------|
| Special version | Activation input |
|-----------------|------------------|

Optical data

| | |
|--------------------------|--------------------------------------|
| Operating range | Guaranteed operating range |
| Operating range | 0.5 ... 120 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0 ... 150 m |
| Beam path | Divergent |
| Light source | LED, Red |
| Wavelength | 630 nm |
| Transmitted-signal shape | Pulsed |
| LED group | Exempt group (in acc. with EN 62471) |

Electrical data

| | |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
| | Short circuit protected |
| | Transient protection |

Performance data

| | |
|----------------------|--|
| Supply voltage U_B | 10 ... 30 V, DC, Incl. residual ripple |
| Residual ripple | 0 ... 15 %, From U_B |
| Open-circuit current | 0 ... 20 mA |

Inputs

| | |
|-----------------------------|------------|
| Number of activation inputs | 1 Piece(s) |
|-----------------------------|------------|

Activation inputs

| | |
|--------------------------|------------------------|
| Voltage type | DC |
| Switching voltage | high: $\geq 8V$ |
| | low: $\leq 2 V$ |
| Activation/disable delay | 1 ms |
| Input resistance | 10,000 Ω , 10 % |

Activation input 1

| | |
|------------------------|---------------------|
| Assignment | Connection 1, pin 4 |
| Active switching state | High |

Time behavior

| | |
|-----------------|--------|
| Readiness delay | 300 ms |
|-----------------|--------|

Connection

Connection 1

| | |
|--------------------|----------------|
| Function | Signal IN |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |
| Encoding | A-coded |

Mechanical data

| | |
|----------------------------|------------------------------|
| Dimension (W x H x L) | 20.5 mm x 76.3 mm x 44 mm |
| Housing material | Plastic |
| Plastic housing | PC-PBT |
| Lens cover material | Plastic / PMMA |
| Net weight | 60 g |
| Housing color | Red |
| Type of fastening | Through-hole mounting |
| | Via optional mounting device |
| Compatibility of materials | ECOLAB |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 2 Piece(s) |

Environmental data

| | |
|--------------------------------|---------------|
| Ambient temperature, operation | -40 ... 60 °C |
| Ambient temperature, storage | -40 ... 70 °C |

Certifications

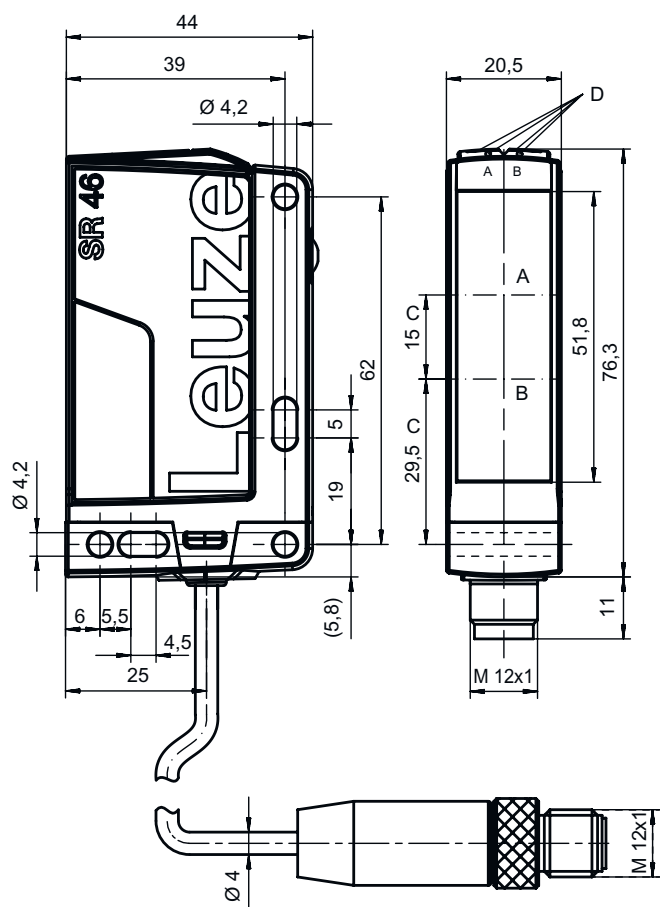
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| | IP 69K |
| Protection class | III |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| ECLASS 5.1.4 | 27270901 |
| ECLASS 8.0 | 27270901 |
| ECLASS 9.0 | 27270901 |
| ECLASS 10.0 | 27270901 |
| ECLASS 11.0 | 27270901 |
| ECLASS 12.0 | 27270901 |
| ECLASS 13.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |
| ETIM 7.0 | EC002716 |
| ETIM 8.0 | EC002716 |

Dimensioned drawings

All dimensions in millimeters



- A Transmitter
- B Yellow LED
- C Optical axis
- DA Green LED
- DB Yellow LED

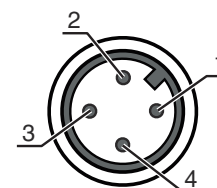
Electrical connection

Connection 1

| | |
|--------------------|----------------|
| Function | Signal IN |
| | Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |
| Encoding | A-coded |

Pin Pin assignment







| | |
|---|------|
| 1 | V+ |
| 2 | n.c. |
| 3 | GND |
| 4 | IN 1 |



Operation and display

| LED | Display | Meaning |
|-----|--------------------------|-------------------------|
| 1 | Green, continuous light | Operational readiness |
| 2 | Yellow, continuous light | Transmitted beam active |
| 3 | Yellow, continuous light | Transmitted beam active |

Suitable receivers

| | Part no. | Designation | Article | Description |
|---|----------|----------------|---|---|
|  | 50127037 | LE46C.1/4P-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 150 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin Operational controls: 270° potentiometer |
|  | 50131556 | LE46C.P/2N-M12 | Throughbeam photoelectric sensor receiver | Special version: Operation of parallel light axes Operating range limit: 0 ... 120 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching output 2: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |
|  | 50131555 | LE46C.P/4P-M12 | Throughbeam photoelectric sensor receiver | Special version: Operation of parallel light axes Operating range limit: 0 ... 120 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |
|  | 50127036 | LE46C/2N-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 150 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching output 2: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |
|  | 50127033 | LE46C/4P-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 150 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |
|  | 50127038 | LE46C/4W-M12 | Throughbeam photoelectric sensor receiver | Special version: Warning output Operating range limit: 0 ... 150 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, UB switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |

Part number code

Part designation: AAA46C d EE-f.GG H/i J-K

AAA46C

Operating principle / construction

HT46C: Diffuse reflection sensor with background suppression
 LS46C: Throughbeam photoelectric sensor transmitter
 LE46C: Throughbeam photoelectric sensor receiver
 PRK46C: Retro-reflective photoelectric sensor with polarization filter
 RK46C: Retro-reflective photoelectric sensor

Part number code

| | |
|-----------|---|
| d | Light type n/a: red light l: infrared light |
| EE | Light source n/a: LED L1: laser class 1 L2: laser class 2 |
| f | Preset range (optional) n/a: operating range acc. to data sheet xxxF: Preset range [mm] |
| GG | Equipment n/a: standard 1: 270° potentiometer 8: activation input (activation with high signal) 01: diffuse reflection sensor with background suppression (HT): HG tape (HighGain tape) is not detected from a distance of 900 mm with a set operating range of ≤ 450 mm (diffuse reflection: 6%, black) D: Depolarizing media E: Diffuse reflection sensor with background suppression (HT): optimized for dusty environments SL: Diffuse reflection sensor with background suppression (HT): slit diaphragm 25 mm x 3 mm P: throughbeam photoelectric sensor receiver (LE): edge filter for parallel operation L: Light-band XL: Extra long light spot |
| H | Operating range adjustment & version n/a with diffuse reflection sensor with background suppression (HT): range adjustment via mechanical adjusting spindle n/a with retro-reflective photoelectric sensors (PRK): operating range not adjustable 1: retro-reflective photoelectric sensors (PRK/RK): sensitivity adjustment via potentiometer 3: teach-in via button P2: resolution 2 mm |
| i | Switching output/function OUT 1/IN: Pin 4 or black conductor 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching L: IO-Link |
| J | Switching output / function OUT 2/IN: pin 2 or white conductor 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching 8: activation input (activation with high signal) 9: deactivation input (deactivation with high signal) W: warning output X: pin not used |
| K | Electrical connection n/a: cable, standard length 2000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug) 500-M12: cable, length 500 mm with M12 connector, 4-pin, axial (plug) 1000-M12: cable, length 1000 mm with M12 connector, 4-pin, axial (plug) |

Note



A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes



Observe intended use!



- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with its intended use.

Notes

For UL applications:



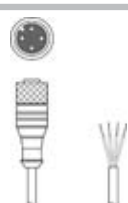

- ↳ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- ↳ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/ CYJV7 or PVVA/PVVA7)

Further information


- Light source: Average life expectancy 100,000 h at an ambient temperature of 25 °C

Accessories


Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|--|----------|--------------------|------------------|--|
|  | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC |
|  | 50130690 | KD U-M12-4W-V1-050 | Connection cable | Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC |

Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|---|----------|-------------|-----------------|--|
|  | 50105315 | BT 46 | Mounting device | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal |

Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|--|----------|--------------|-----------------|--|
|  | 50117252 | BTU 300M-D12 | Mounting system | Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal |

Accessories

Note



🔗 A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.